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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,170	02/27/2002	Peter T. Baker	ANCO-57US/119	8043

7590

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EXAMINER

VU, PHUONG T

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 06/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,170

Applicant(s)

BAKER, PETER T.

Examiner

Phuong T. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3-9, 10-21, 23-27, 35-38, 40-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3-8, 10-21, 23-27, 35-38, 40-46 recite a power amplifier in the preamble but provides no structure in the body of the claim to support this recitation.

Claim 9 recites a "controlled impedance circuit". In the specification, Applicant does not mention a "controlled impedance circuit".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Pressler et al. (US 5,550,713). Regarding claim 1, the reference discloses an apparatus comprising a single circuit board 50 having a plurality of subcircuits thereon, a chassis body 84 and a lid structure 82 for coupling with the chassis body to contain the circuit board, and a wall 88 extending from the lid structure and surrounding a subcircuit to electrically isolate the subcircuit from other subcircuits on the circuit board. The

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recitation that of a power amplifier in the preamble has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Regarding claim 3, the wall forms a cavity for containing the subcircuit.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-8, 10-21, 23-27, 35-38, 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pressler et al. (US 5,550,713). Regarding claim 1, the reference discloses an apparatus comprising a single circuit board 50 having a plurality of subcircuits thereon, a chassis body 84 and a lid structure 82 for coupling with the chassis body to contain the circuit board, and a wall 88 extending from the lid structure and surrounding a subcircuit to electrically isolate the subcircuit from other subcircuits on the circuit board. The reference only speaks generally of the circuitry on the circuit board and teaches that the circuitry may be comprised of several functional circuits such as voltage regulation circuitry, signal amplification circuitry, etc. It does not specifically teach that the apparatus is a power amplifier, however, those skilled in the

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art at the time the invention was made would recognize that the apparatus may be a power amplifier and thus have circuitry that supports such a device.

Regarding claim 3, the wall forms a cavity for containing the subcircuit.

Regarding claim 4, the circuit board includes a ground path 60 formed along a surface of the board, the wall coupling with a portion of the ground path for grounding the wall and the lid structure.

Regarding claim 5, the ground path is shaped to surround a portion of the subcircuit, the wall having a shape generally corresponding to the shape of the ground path.

Regarding claim 6, the circuit board has multiple conductive circuit layers 52, 54 separated by a dielectric layer 55. The first layer 52 is coupled to components of the subcircuits. The reference teaches the layers 52, 54 have ground planes and that the circuit board may have one or more ground plates disposed in the intermediate dielectric layer 55. One of these ground plates may be considered the second layer.

Regarding claims 7-8, the reference teaches that the circuit board may have a third conductive layer 54 separated from the second layer by a dielectric layer and a fourth conductive layer (ground plate layer) having a ground plane. The third conductive layer may be configured for signal distribution between subcircuits. It is always necessary to separate the conductive layers in a circuit board by a dielectric layer. Providing more layers would be expedient in the art. Multiple layer boards with more conductive layers provide expanded room for more circuitry which may add to the functionality of the apparatus.

Regarding claim 10, the fourth conductive layer is electrically coupled to the chassis body.

Regarding claim 11, the fourth conductive layer is substantially metallized.

Regarding claim 12, the lid structure includes component clearance areas adapted to provide clearance for components of the subcircuits.

Regarding claim 13, the chassis body includes at one coupling channel 100 formed therein to allow coupling connections between subcircuits.

Regarding claim 14, the wall includes a pathway 100 formed therein for connecting subcircuits together.

Regarding claim 15, a gasket 105 is coupled to the wall for further isolating the subcircuit.

Regarding claim 16, the chassis body includes at a least one channel adapted to contain at least one subcircuit extending downwardly from the circuit board.

Regarding claim 17, 24 the reference discloses a apparatus comprising a single circuit board 50 with multiple layers having a plurality of subcircuits thereon and defining a ground plane in one of the layers, a chassis body 84 with a conductive ground surface, a lid structure 82 for coupling with the chassis body to contain the circuit board, the lid structure including walls 88 extending from the lid structure and surrounding a subcircuit to electrically isolate the subcircuit from other subcircuits on the circuit board, and a ground isolation path 60 formed in the circuit board and surrounding at least a portion of one of the subcircuits, a lid structure wall being electrically coupled to the ground isolation path for isolating the subcircuit. The reference only speaks generally of

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the circuitry on the circuit board and teaches that the circuitry may be comprised of several functional circuits such as voltage regulation circuitry, signal amplification circuitry, etc. It does not specifically teach that the apparatus is a power amplifier, however, those skilled in the art at the time the invention was made would recognize that the apparatus may have circuitry that supports any number of functions including amplification.

Regarding claims 18, 24, the ground isolation path is electrically coupled with the chassis body ground surface.

Regarding claim 19, 27 the lid structure wall coupled to the ground isolation path and has a shape generally corresponding to the ground isolation path.

Regarding claim 20, 26 a gasket 105 is coupled to the wall and is positioned between the wall and the ground isolation path.

Regarding claim 21, 23, 25 the circuit board has multiple conductive layers separated by a dielectric layer, a first conductive layer 52 coupled to components of the subcircuits. The reference teaches the layers 52, 54 have ground planes and that the circuit board may have one or more ground plates disposed in the intermediate dielectric layer 55. One of these ground plates may be considered the second layer and another of the ground plates may be considered another conductive layer which is electrically coupled to the chassis body ground surface.

Regarding claims 23-24, the ground isolation path includes a plurality of plated vias extending into the circuit board.

Regarding method claims 35-38, 40-46 one would necessarily perform the recited steps in the manufacture of the apparatus rejected above.

7. Claims 2, 9, 22, 28-34, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pressler et al. (US 5,550,713) in view of Achiriloaie. Pressler refers to the circuitry generally and does not provide specific details. Achiriloaie discloses a known power amplification circuitry on circuit board 40 which may be provided in the apparatus such as the one disclosed by Pressler. The Achiriloaie reference is relied upon to provide more detail about known power amplification circuitry for use in the above mentioned apparatus.

Regarding claim 2, Achiriloaie discloses circuitry comprising a high power gain subcircuit with a wall surrounding the subcircuit. As noted above, Pressler also discloses walls for electrically isolating subcircuits on the circuit board.

Regarding claims 9 and 22, Achiriloaie shows that the first layer includes circuitry which may be considered a controlled impedance circuit. Utilizing the ground plane of the second layer to complete this circuit is expedient in the art.

Regarding claim 28, Pressler discloses an apparatus comprising a single circuit board 50 having a plurality of subcircuits thereon, a chassis body 84 and a lid structure 86 for coupling with the chassis body to contain the circuit board, and a wall 88 extending from the lid structure and surrounding a subcircuit to electrically isolate the subcircuit from other subcircuits on the circuit board. This reference only speaks generally of the circuitry on the circuit board and teaches that the circuitry may be comprised of several functional circuits such as voltage regulation circuitry, signal

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amplification circuitry, etc. It does not specifically teach that the apparatus is a power amplifier, however, those skilled in the art at the time the invention was made would recognize that the apparatus may be a known power amplifier as shown by Achiriloaie which would necessarily have a power supply subcircuit and a high power gain circuit.

Regarding claim 29, the circuit board includes an isolation ground path 60 formed along a surface of the board, the wall coupling with a portion of the isolation ground path.

Regarding claim 30, the isolation ground path is shaped to surround a portion of the subcircuits and the wall has a shape generally corresponding to the shape of the isolation ground path.

Regarding claim 31, the ground isolation path is electrically coupled with the chassis body.

Regarding claim 32, the ground isolation path includes a plurality of plated vias extending into the circuit board.

Regarding claim 33, the circuit board has multiple conductive layers separated by a dielectric layer, a first conductive layer being coupled to components of the subcircuits and another conductive layer defining a ground plane, the plated vias coupling to the ground plane.

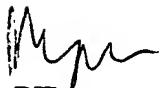
Regarding claim 34, those skilled in the art would recognize that the power supply subcircuit and the high power gain subcircuit should be positioned as far away from each other on the circuit board to minimize electromagnetic interference.

Regarding method claims 39, one would necessarily perform the recited steps in the manufacture of the apparatus rejected above.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (703) 308-0303. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin be reached on (703) 308-3121. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



PTVu
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